

Chelan County CFHMP

Scope of Work

The proposed technical approach for this project can be broken down into five primary phases summarized as follows:

Phase 1: Organize Planning Committee

Under this phase, the Tetra Tech Team will organize a planning committee pursuant to the CRS section 511.2.a requirements. The makeup of this committee will strive to include citizen's stakeholders, and appropriate County personnel to meet the CRS classification prerequisite criteria. The team will work closely with County personnel to identify potential members of the planning committee. Once organized, the team will facilitate a series of planning committee meetings to meet the planning process milestones required under the CRS program. The team will prepare all meeting materials and document all meeting outcomes throughout this facilitated process.

This phase can be broken down in to 3 specific tasks that will identify measurable deliverables for the team to provide that will meet the overall objectives of this phase. Each task and the deliverables for each task are described as follows:

Task 1A: Flood Hazard Mitigation Steering Committee (FHMSC): Under this task, the Tetra Tech Team will support the County in the formation of a Steering Committee to oversee the plan development process from start to finish. Under this task, it has been assumed that the FHMSC will meet no fewer than 6 times at a date and time to be determined, during the plan development process. This support shall include:

- Guidance on makeup of committee
- Drafting of Steering Committee "ground rules"
- Working with a lead project manager appointed by the County to develop agendas for each meeting that will assure the progress in the plan's development.
- The FHMSC meetings will be led by the Tetra Tech team. Under this Task, the team will actively participate in all scheduled meetings, determined on need via coordination between the project manager and the Tetra Tech team.

Task 1B: Coordination with Other Agencies. Under this task, the Tetra Tech team will identify other agencies involved in hazard mitigation that may have an interest in this effort to be invited to participate. The level of participation solicited will be determined by the FHMSC. At a minimum, this will include: other local governments within the planning area, neighboring Counties, FEMA Region X, Washington Emergency Management Division and the WA Department of Ecology. The team will prepare mailing list and e-mail lists of all key agencies and provide to the project manager, to assure that they are kept apprised on all phases of the plans development. These

agencies will also be provided a copy of the draft plan for their review and comment at the end of the planning process.

Task 1C: Review of Programs: Under this task, the team will conduct a literature review of other studies and programs that could support or impact flood hazard mitigation in effect within the County. This will include a comprehensive review of the flood component of the Chelan County Natural Hazards Mitigation Plan and Chelan County Comprehensive Plan.

Phase 2: Risk Assessment.

Under this phase, the Tetra Tech team will assist the County in assessing the characteristics and potential consequences of the flood hazards that impact the planning area.

A thorough assessment of the flood hazard as well as the vulnerability of the planning area will be accomplished using the Hazards U.S. Multi-Hazard v.2.1 (Hazus) risk assessment tool, benefit-cost analysis tools and historical/local knowledge of past occurrences. This will include a full economic analysis that meets the parameters identified in the solicitation. These are standard outputs from the Hazus and benefit/cost analysis tools produced by FEMA. As a starting point, the team will use any existing pertinent studies or plans identified under Phase 1, Task C and the existing State Hazard Mitigation Plan, as the best available data to create the following elements:

- Define a planning area.
- A description of the type, location (map), and extent of the flood hazard that can impact the planning area.
- Flood hazard area depth grid production
- A description of the planning area's vulnerability to the flood hazard that include an overall summary of the hazard and its impact on the planning area.
- The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the flood hazard areas and the potential impacts to these facilities.
- An estimate of the potential dollar losses to vulnerable structures in the studied areas.
- A general description of current land uses and development trends within the planning area.
- A review of all identified National Flood Insurance Program (NFIP) repetitive loss properties. This review will meet the section 503 requirements for repetitive loss communities under the CRS program.
- For the flood hazard a review of all properties within the defined planning area that have received flood insurance claims (in addition to those identified repetitive loss properties).

Phase 2 will be broken down in to 3 specific tasks that will identify measurable deliverables for the consultant to provide that will meet the overall objectives of this phase. Each task and the deliverables for each task are described as follows:

Task 2A: Hazus. Under this Task, Tetra Tech will perform the Hazus analysis for the flood hazard specific to the planning area. This will be a level 2, user defined analysis that includes a general building stock update within the County regulated floodplain utilizing Chelan County Assessor's

data and County LIDAR data if available. The team shall provide the results of this analysis in a user friendly format to the FHMSC for their review and approval. Outputs from this task will include:

- Maps that illustrate extent and location of the flood hazard areas.
- Review of past occurrences since the completion of the prior plan.
- Flood Hazard depth grids for the 10, 50, 100 and 500-year flood events in areas where detailed flood studies are available.
- The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas for each scenario event.
- Loss estimates for each scenario event for all residential, commercial, industrial buildings and identified critical facilities within each hazard area.
- An analysis of identified, vulnerable critical facilities for each scenario event.
- An analysis of the estimated debris generated from each scenario event
- A land use analysis for each scenario event that includes a look at land with potential for future development (i.e.: buildable lands analysis)

Task 2B: GIS Maps. Under this task, the team will generate “GIS” based maps that will illustrate the extent and location the flood hazard within the defined planning area. This will include those areas mapped by FEMA as flood hazard areas as well as those areas regulated by Chelan County as flood hazards areas. It is important to note that the performance of new flood studies are not included in this proposed scope of work, as they were not identified as scope element in the RFQ.

Task 2C: Loss Analysis. Under this task, the Tetra Tech team will analyze the loss results generated by HAZUS and validate those results by looking at the following:

- Past Disaster assistance claims
- Flood Insurance claims
- FEMA repetitive loss data
- Property owner information obtained under phase 3 of this scope of work

Once data has been validated, HAZUS outputs will be formatted in to a format that will be incorporated into the final plan.

Phase 3: Public Involvement Strategy

Under this phase, the planning team will work with the FHMSC to develop and implement a public involvement strategy that will meet the requirements of the CRS program. Key to this task will be to utilize multiple media within the capabilities of the partnership that will give the public multiple opportunities to provide comment on the subject matter. This strategy will focus on 3 primary objectives:

1. Assess the public’s perception of risk associated with flood hazards.
2. Assess the public’s perception of vulnerability to those risks.
3. Identify possible mitigation strategies that will be supported by the public.

It should be noted that the level of effort for this phase will be totally at the discretion of the FHMSC. This strategy will focus on how to best share the information with the public utilizing the capabilities within Chelan County and thus allow for the opportunity for public comment. The following tasks are recommended components of a comprehensive public involvements strategy that meet or exceed the requirements of the CRS program. Key components of this phase are described in the following tasks.

Task 3A: Questionnaires- Under this task, the team will develop a flood hazard Mitigation questionnaire pertinent to issues within the planning area to gauge the public's perception of risk, vulnerability and willingness to support mitigation initiatives. This questionnaire will be set up in an electronic format that can easily be disseminated and tallied electronically. This task will include tabulation of the questionnaire responses and analysis of the results.

Task 3B: Public Meetings- Under this task, the team will support the County in the facilitation of public meetings during the course of the plan update process. Once again, the number of public meetings held during this process will be at the discretion of the FHHMSC. To assure that this planning process will meet the minimum requirements under the CRS program, we propose that a minimum of 2 public meetings be held during this planning process. One (1) meeting will be held during the risk assessment phase to share findings of the risk assessment and to gauge the public's perception of risk. This meeting will be held at a location within the floodplain to allow an opportunity for floodplain residents to comment on the risk assessment. Additionally, one (1) public meeting will be held once the draft plan has been assembled to give the public an opportunity to comment on the plan. All public meeting will be advertised via press releases implemented under task 3D below.

Task 3C: Website- A key element under this phase will be the development and promotion of a CFHMP website that will be the one-stop shop for all information pertaining to this planning process. This website will be hosted by Chelan County and all materials for the site will be prepared by the Tetra Tech team.

Task 3D: Media releases- Under this task, the team will prepare press release materials via multiple media providing plan update details and announcing the planning process, how the public can get involved in the process and the public meetings scheduled under task 3B.

Phase 4: Develop the CFHMP

Under this phase, the planning team will assemble the plan utilizing all data generated in phases 1 through 3. The format and layout of the updated plan will be determined by the planning team and approved by the FHMSC. It will be a principal objective of this phase to format the plan such that it can easily be incorporated back into other plans that can support or enhance the outcome of the CFHMP such as the Chelan County Multi-Jurisdictional Natural Hazard Mitigation Plan and the Chelan County Comprehensive Plan. The tasks to be completed under this phase are as follows:

Task 4A: Establish goals/objectives of the plan- Under this Task, the Tetra tech team will facilitate the selection of a guiding principal, goals and objectives for the plan. The basis for this review will

be the current goals and objectives of the Chelan County Multi-Jurisdictional Natural Hazards Mitigation Plan and the Chelan County Comprehensive Plan to assure consistency with those programs. The confirmation goals and objectives will be made by the FHMSC, based on feedback received via the public involvement strategy, and issues identified by the risk assessment. The primary goal of this task is to identify goals and objectives that are measurable and are consistent with the needs and capabilities of the County.

Task 4B: Flood Hazard Mitigation Strategy, proposed projects and Solutions. Under this task, the Tetra Tech team will work with the FHMSC and the County to develop a flood hazard mitigation strategy that includes a project prioritization schedule that will be utilized by the County in the selection of their mitigation action plan. The prioritization shall be established with a special emphasis on estimated project costs versus the estimated project benefits, flood risks, potential for property damage and development potential. A key element of this task will be an alternatives analysis that will identify a comprehensive range of both structural and nonstructural solutions. Under this Task, the planning team will support the County in establishing an action plan that includes:

- Identification of problems and necessary capital improvement projects
- Identify a comprehensive range of alternatives.
- Establish criteria for action selection
- Categories that can be assigned to each project's cost and benefits that are reasonable measurable (i.e.: high, medium and low) to show ratios of 1.0 or higher.
- Identify other measurable elements to be considered when prioritizing an action (i.e.: the number of goals and or objectives an action will meet).
- Identify funding options (i.e. grants, local sources. private sector sources)
- Create guidance package for planning partners on how to prioritize projects once selected.
- Clearly identify whether initiative will impact new or existing structures

Task 4C: Author the updated plan text- Under this task, the draft plan will be authored and assembled by the planning team. Coordinating with the FHSMC, the planning team will format the plan layout to meet the objectives established for the planning process. Tetra tech will prepare a plan that will include the following parameters:

- A description of the planning process.
- A description of the public involvement campaign.
- A comprehensive flood hazard risk assessment as described under phase 2 of this proposed approach
- Planning area characteristics that focus on the physical and cultural characteristics of key watersheds within Chelan County.
- A capability assessment that includes: an inventory of the planning areas missions, programs and policies and an analysis of the capability to carry them out.
- A comprehensive review of floodplain management policies in effect within Chelan County and recommendations for changes or enhancements.

- Illustrate goals of the plan.
- A review of all possible mitigation activities for each hazard including those not recommended by the plan.
- A discussion on floodplain funding opportunities and management
- Include an action plan that will target agencies/departments for implementation, targeted time frame for completion and potential funding.
- A summary of how the plan's progress will be monitored and establish a timeline for progress reports and updates.
- Identification of the process for incorporating the plans requirements into other planning mechanisms with the planning area.

Task 4D: Flood Warning Program Review- Under this task, the Tetra Tech team will perform a comprehensive review of the flood warning capability of Chelan County. This review will include a look at existing programs and protocols, and will include a list of changes or program enhancements that fall within the capabilities of Chelan County. The team will use CRS activity 610 (Flood Warning Programs) as the standard for which this evaluation will be based upon. Any recommendations on this task will be presented within the plan as action items depending upon the FHSMC and County approval.

Task 4E: Technical edit/Format- Once the initial draft has been developed, the draft plan will be submitted for a technical/format edit to prepare the final draft plan that will be presented to the public for their review and comment. Once all public comments have been received, and the plan has been approved by reviewing agencies (DOE and ISO), a final plan will be created under this task.

Task 4F: CRS Impact Analysis Report- Under this task, the Tetra Tech team will perform a programmatic evaluation of Chelan County's overall floodplain management program to identify the feasibility and classification potential for Chelan County under the CRS program. A CRS Impact Analysis Report will be prepared that will be separate from the completed CFHMP. This report will:

- Summarize the CRS activities
- Evaluate County credit potential based on existing programs
- Identify uniform minimum credits based on state programs
- Make recommendations for program enhancements to maximize CRS credit potential
- Flood insurance statistic summary that will show potential CRS classification impacts in Chelan County by CRS class

Phase 5: Implement and Adopt the plan

Once Phase 4 is complete, the Final Draft Plan will be ready to present to the political body. To meet DOE and CRS program requirements the governing body must adopt the Plan. Under this phase, the Tetra Tech team will support the County in the preparation and presentation of the Plan to the political body for adoption. Phase IV will be broken down in to - specific tasks that will identify measurable deliverables for the consultant to provide that will meet the overall objectives of this phase. Each task and the deliverables for each task are described as follows:

Task 5A: Complete plan Review Crosswalk: Under this task, the team will complete the CRS plan review crosswalks to illustrate the plan's compliance with the requirements of section 510 of the CRS Coordinators Manual.

Task 5B: Pre-adoption Review request: Under this Task, Tetra Tech will prepare and submit the draft plan to the Insurance Services Office to request their pre-adoption review and comment on the draft plan.

Task 5C: Adoption Support: Once pre-adoption approval has been received from ISO, the Tetra Tech team will support the Lead project Planner in the adoption phase of the planning process. This support will include the following:

- Sample resolutions for adoption.
- 2 master hard copies of the completed plan and 2 "print-ready" digital copies of the plan. This SOW has assumed that the county will assume the responsibility for mass reproduction of the final plan.
- Preparation of Power Point presentation to be utilized by the County in their presentations to the Board for adoption.